

WHAT IS CLAIMED IS:

1 A component placement machine for placing components on printed
2 circuit boards, the machine comprising:

3 a component storage area;
4 a component placement system for taking components from the
5 component storage area and placing the components on the printed circuit boards;
6 an enclosure surrounding the component storage area; and
7 a dry gas delivery system for delivery of a dry gas to the storage
8 area to maintain a dry atmosphere and to prevent moisture from being absorbed by
9 the components.

1 2. The machine of Claim 1, wherein the component storage area
2 includes trays containing the components.

1 3. The machine of Claim 1, wherein the component storage area
2 includes tapes containing the components.

1 4. The machine of Claim 1, wherein the component storage area
2 includes sticks containing the components.

3 5. The machine of Claim 1, wherein the component storage area
4 includes components in bulk storage.

1 6. The machine of Claim 1, wherein a flow rate of the dry gas
2 delivered to the storage area is controlled by a control system including a humidity
3 sensor within the component storage area.

1 7. The machine of Claim 1, wherein the dry gas is delivered to the
2 component storage area at a first flow rate when the storage area is open and is
3 delivered at a second flow rate when the storage area is closed.

1 8. The machine of Claim 7, wherein the first flow rate is higher than
2 the second flow rate.

1 9. A method of mounting electronic components on a printed circuit
2 board, the method comprising:
3 storing electronic components in a storage area of a surface mount
4 device placement machine;
5 maintaining a dry atmosphere in the storage area by enclosing the
6 storage area and injecting dry gas into the storage area;
7 removing the components from the storage area; and
8 mounting the components on a printed circuit board.

1 10. The method of Claim 9, wherein the storage area includes trays
2 containing the components.

1 11. The method of Claim 9, wherein the storage area includes tapes
2 containing the components.

1 12. The method of Claim 9, wherein the storage area includes sticks
2 containing the components.

1 13. The method of Claim 9, wherein the storage area includes
2 components in bulk storage.

1 14. The method of Claim 9, wherein the dry atmosphere in the storage
2 area is provided by delivering a dry gas to the storage area.

1 15. The method of Claim 14, wherein a flow rate of the dry gas
2 delivered to the storage area is controlled by a control system including a humidity
3 sensor within the storage area.

1 16. The method of Claim 14, wherein the dry gas is delivered to the
2 storage area at a first flow rate when the storage area is open and is delivered at a
3 second flow rate when the storage area is closed.

1 17. The method of Claim 16, wherein the first flow rate is higher than
2 the second flow rate.

1 18. The method of Claim 9, further comprising removing about 0.1 %
2 or more of the weight of the component by elimination of moisture while the
3 components are stored in the storage area.

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